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Heart Failure and Cardiomyopathies

THE USE OF VITAMIN C AND E AFTER HEART TRANSPLANT REVISITED

Poster Contributions
Poster Hall B1
Saturday, March 14, 2015, 10:00 a.m.-10:45 a.m.

Session Title: Stage D and Beyond: Advanced Heart Failure, Mechanical Circulatory Support and Transplantation
Abstract Category: 15. Heart Failure and Cardiomyopathies: Therapy
Presentation Number: 1112-194

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Background: Cardiac allograft vasculopathy (CAV) is one of the main limiting factors in long term survival in heart transplant patients. Vitamin C and E (vit C & E) are potent antioxidants which may have a role in slowing CAV progression. Fang et al reported previously (Lancet. 2002: 359: 1108-1113) that vit C & E with a calcineurin inhibitor can control the progression of CAV through a randomized intravascular ultrasound trial. In the current age of tacrolimus (TAC) and mycophenolate mofetil (MMF) it is not clear if vit C & E remain beneficial.

Methods: Between 2006 and 2011, we evaluated 172 patients who were maintained on TAC/MMF and divided them into those who were treated with vit C & E and those who were not. Outcomes including 3-year survival, freedom from CAV, and freedom from non-fatal major adverse cardiac events (NF-MACE), defined as myocardial infarction, new congestive heart failure, percutaneous coronary intervention/ angioplasty, ICD/pacemaker implant, stroke, were assessed (see table).

Endpoint	Control(n=71)	Vitamin C & E (n=101)	P-Value
3-Year Survival	78.9%	91.1%	0.023
3-Year Actuarial Freedom from CAV	89.8%	84.0%	0.331
Average Peak ISHLT CAV Grade	1.3±0.5	1.4±0.5	0.198
3-Year Actuarial Freedom from NF-MACE	83.8%	87.9%	0.635

Results: Vit C & E did not appear to protect against CAV at 3 years post-transplantation. The average peak CAV grade was not different between the two groups. However, 3-year patient survival was significantly lower in the control group compared to the treatment group.

Conclusion: The use of vit C & E in heart transplant patients on maintenance TAC and MMF does not appear to be helpful in preventing CAV but may decrease mortality post-transplant.